

CuSn6

ALLOY NAME

AMW - 33	IS/ISO	DIN CEN/TS 13388	UNS	JIS	KMW
CuSn6	CuSn6	CW452K	C51900	C5191	CuSn6

Chemical Composition	(% By Weight)	Main Applications	
P	0.02 - 0.40 %	Electrical	Contact Springs, Electrical Flexing, Contact Bladers-Terminals, Switch Parts, Electrical Flexing
Sn	5.5 - 7.0 %	Fasteners	Lock Washers, Cotter Pins, Fasteners.
Pb	0.02 Max. %	Industrial	Textile Machinery, Perforated Sheets, Springs, Sleeve Bushing, Clutch Disks
Zn	0.30 Max %	General	Stamped Parts, Connectors, Contact Springs, Spring Elements.
Fe	0.10 Max %		
Cu	Remainder %		

Physical Properties Typical values in annealed temper at 20 °C

Density	8.80	g/cm ³
Thermal expansion coefficient -191 .. 16 / 0 .. 300°C	18.0 / 18.5	10-6/K / 10-6/K
Specific heat capacity	0.377	J/(g•K)
Thermal conductivity	75	W/(m•K)
Electrical conductivity (1 MS/m = 1 m/(Ω mm²))	≥ 8	MS/m
Electrical conductivity (IACS)	≥ 13	%
Thermal coefficient of electrical resistance (0 .. 200 °C)	0.65	10-3/K
Modulus of elasticity (1 GPa = 1 kN/mm²) cold formed	102 / 118	GPa / GPa

Mechanical Properties (EN 1652)

Temper	Tensile Strength Rm MPa (N/mm ²)	Yield Strength Rp0.2 MPa (N/mm ²)	Elongation Minimum A50mm %	Hardness HV
O (SOFT)	340 Min	≤ 300	50 Min	90 Max
HA (Quater Hard)	385 Min	≥ 350	40 Min	115 Min
HB (Half Hard)	525 Min	≥ 400	12 Min	170 Min
HD (Hard)	620 Min	≥ 500	6 Min	200 Min
HE (Extra Hard)	695 Min	≥ 590	4 Min	215 Min
HS (Spring Hard)	720 Min	≥ 650	2 Min	240 Max.

Fabrication Properties

Cold formability
Hot formability
Soldering
Brazing
Oxyacetylene welding
Gas shielded arc welding

Excellent
Not Recommended
Excellent
Excellent
Fair
Good